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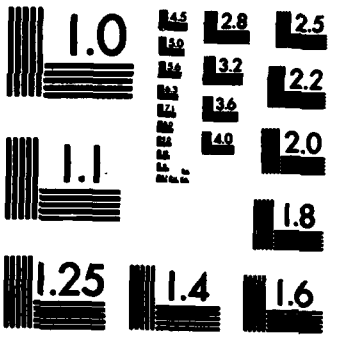

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Final Report on: HYBRID DATA PROCESSING RESEARCH FACILITY

Principal Investigator: David Casasent
Electrical & Computer Engineering
Carnegie-Mellon University
Pittsburgh, PA 15213

Prepared for: Scientific Monitor
AFOSR/NM
Bldg. 410
Bolling AFB
Washington, DC 20332
and
Administrative Office
AFOSR AFOSR/PKZ
Bldg. 410
Bolling AFB
Washington, DC 20332
Attention: Madeline Weinberger (Negotiator)
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Abstract

The equipment purchased on AFOSR-83-0357 for a hybrid data processing facility is detailed. The research on which this facility is used are noted.

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1. INTRODUCTION

The approved budget request was 25% of the original amount request. However, the facility that this equipment provides will be and has been most useful in support of our various AFOSR research and our other DOD and company contracts. In Section 2, the equipment purchased is detailed. In Section 3, the research it supports is discussed.

2. EQUIPMENT

The 12 major equipment items, and manufacturers are noted in Table 1. In the following lines, the use of each item is briefly noted.

Item 1 is a DeAnza image processor. It provides various simple image processing functions. For our facility, it is used primarily as a real-time data display of image information (at present). This is vital for our AFOSR etc. image processing research. Items 2 and 3 are a printer and tape unit for our dedicated VAX processor. They are essential computer peripherals. Items 4 and 7 are associated system software items. Items 5 and 9 are terminals for our VAX. Item 6 are monitors for the image processor in Item 1. Item 10 allows multiple users on our VAX. Item 11 is a stand-alone real-time image processor we plan to develop. Item 12 are miscellaneous items for our computer system and Item 8 is a printer for text processing. These equipment items total over $96,000. The excess over the $96,000 budget and associated other equipment and shipping charges are detailed in the C-MU acount and comprise C-MU cost sharing. These include small parts, shipping, terminals and miscellaneous cables, etc.

3. RESEARCH USES OF FACILITY

Our AFOSR Contracts (C-MU Account numbers 52073 and 52101), our future AFOSR Contract on adaptive radar and separate grants fromNASA Lewis (C-MU Account 57098) and NASA Langley plus Industry contracts from General Dynamics (C-MU Account 1-41267) and Teledyne (C-MU Account 1-41403) utilize this facility.

Our primary AFOSR Contract (52073) concerns pattern recognition for missile guidance. This contract and AFOSR contract 52101 on Space-Based Imagery extensively use this facility for data base manipulation and algorithm simulations. Specifically, chord, moment, Fourier and space-variant transform features extraction algorithms use this system as well as distortion invariant correlation algorithm research.

Item	Equipment Vendor	Description	Cost
1	DeAnza Gould	Image Processor	$46,695
2	Lowry	Printer	8,312
3	Kennedy	Tape Unit	10,200
4	IMSL	Math Program	1,700
5	Heath	Terminals	3,973
6	DéAnza	Monitors	2,520
7	DEC	VMS Software	621
8	Leasing Terminals	Letter Printer	3,058
9	DEC	Video Terminal	953
10	DEC	Multiplexer	1,830
11	Cyb. Inc.	68K Processor	15,673
12	Word Comp. Inc.	Tapes, lineprinter, supplies	855

Our adaptive radar AFOSR research will use this faciltiy for radar and noise pattern synthesis and for simulation of optical linear algebra processors. Our General Dynamics (C-MU 1-41267) research concerns advanced tests on large image data bases for missle seeker target recornition. Our Teledyne research (41403) concerns communications signal processing data generation and algorithm synthesis of optical signal processors.

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ABSTRACT (Continue on reverse if necessary and identify by block number)

The equipment purchased on AFOSR-83-0357 for a hybrid data processing facility is detailed. The research on which this facility is used are noted.

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